

**COMMITTEE FOR COOPERATIVE RESEARCH (CCR)**

**WORKING GROUP FOR MULTI-FUNCTION PHASED ARRAY RADAR (WG/MPAR)**

**Record of Actions, Meeting 2010-02**

**June 23, 2010**

**Office of the Federal Coordinator for Meteorology, Silver Spring, MD**

**MEMBERS PRESENT**

- DOC - Mr. Doug Forsyth, NOAA/NSSL, Co-chair  
Dr. Daniel Melendez, NOAA/NWS  
Mr. Andy Stern, NOAA/NWS  
Mr. Robert Sole, NTIA  
Mr. Robert Saffle, NOAA/NWS (Noblis)
- DOD - Lt Col David Miller, USAF/NOAA, Co-chair  
Maj. Chris Newnan, USAF, NORAD  
Mr. Pete Puhec, NORTHCOM (dial-in)  
Mr. Tim Kimbrell, USN, SPAWARSYSCEN Charleston
- DOT - Mr. Jaime Figueroa, FAA, Acting Co-chair  
Mr. Bill Benner, FAA (dial-in)  
Mr. Garth Torok, FAA  
Mr. Michael Emanuel, FAA (dial-in)  
Ms. Melanie Flavin, FAA (dial-in)  
Mr. Mike Harven, FAA (BCI)
- DHS - Mr. Spanky Kirsch, DHS/S&T, Co-chair
- OFCM - Mr. Samuel Williamson, Federal Coordinator for Meteorology  
Mr. Jud Stailey, Executive Secretary  
Mr. Tony Ramirez, STC
- Guests - Mr. Dale DeKinder, JPDO, Crown Consulting (dial-in)  
Mr. Tracy Wallace, Georgia Tech Research Institute  
Mr. John Hennings, Georgia Tech Research Institute (dial-in)  
Dr. Mark Weber, MIT LL (dial-in)  
Dr. Jim Flavin, MIT LL (dial-in)  
Dr. Jeff Herd, MIT LL (dial-in)  
Mr. John Heimmer, PARTECH  
Mr. Michael Piersante, Telephonics  
Mr. John Pierro, Telephonics

## **1. OPENING REMARKS**

Mr. Sam Williamson, Federal Coordinator for Meteorology, thanked the members for participating in the meeting. He stated that the MPAR initiative is moving forward, having reviewed and settled on a way forward for risk reduction and completed a draft R&D plan. With these items on the agenda for the Interdepartmental Committee for Meteorological Services and Supporting Research (ICMSSR) meeting in two days and proposed for a Federal Committee (FCMSSR) meeting September or October, we should have good understanding and strong support for MPAR. The initiative is already being watched by OMB and OSTP, which is important from an Administration perspective. He emphasized the importance of completing the R&D Plan and making sure the risk reduction options are clearly linked to the plan.

## **2. STATUS OF ACTION ITEMS**

The executive secretary (ExSec) reviewed the status of [Action Items](#). He pointed out that following the previous meeting there were four self imposed action items remaining open. Two have since been closed. The two remaining were related to updating the Risk-Reduction Implementation Strategy. The ExSec recommended combining them into one item—modifying the strategy for review by the WG. The group concurred with this recommendation. There were also two action items on the working group imposed by the MPAR Executive Council (EC). These were discussed under the next agenda item.

## **3. REPORT ON MPAR EXECUTIVE COUNCIL MEETING**

The ExSec briefed the group on the [EC meeting](#), which took place May 19, 2010, discussing each agenda item from that meeting in some detail. The agenda item related to options for risk reduction resulted in an action item on the WG to pursue the Technical Assessment Program while continuing to consider the other options (NWRT upgrade and EQ-36/EMMR mod). The EC was satisfied with the work that had been done on the R&D Plan (an action from the December 2009 EC meeting) and acknowledged that there was additional work to be done. The other two agenda items (frequency allocation and Integrated Surveillance governance) were informational.

## **4. MPAR UNIFIED R&D PLAN**

The ExSec presented a [briefing](#) on the MPAR Unified R&D plan, a draft of which has been assembled since the last WG meeting. The [draft plan](#) is available on the WG/MPAR web site on the meetings page under EC 2010-1. He provided background about the previous plan and the approach to drafting a new plan. He then described the methodology for determining risk factors for each element of the plan and suggested an approach to adding cost and priority information as recommended in the NAS report on MPAR.

## **5. EXPLORING NON-TAP RISK REDUCTION OPTIONS**

The ExSec presented a [briefing](#) that addressed the EC action item mentioned in paragraph 3 above, in particular how to “explore the potential for [non-TAP options] for contributing further

to evaluating/reducing risk....” He reviewed the details of two non-TAP options as we understand them and then outlined an approach to evaluating the options using the information in the Unified R&D Plan. He suggested that the results of such a process would be more useful if work on the R&D Plan to include priorities and cost was completed prior to undertaking this evaluation.

## **6. REVIEW OF ACTIVITIES SINCE LAST MEETING**

**FAA.** Mr. Garth Torok provided an update of FAA activities. The Lincoln Labs dual pol panel has been received and is in the process of being characterized. There have been a few problems with it, which is to be expected with R&D, but they’ve also seen some very positive results. An upgraded panel is under development and should be delivered in the next few months. FAA’s work on the TAP will be reported in a later agenda item. FAA is working on a CONOPS for MPAR. This CONOPS will address primarily FAA’s operations. A group is currently working on scenarios. There is a meeting scheduled next week with the chief scientist in the FAA Headquarters organization to which the MPAR members at the William J. Hughes Technical Center report. This meeting will provide information to address outstanding issues at that level, including the role of radar in the ADS-B era, the cost versus benefit of radar, and others.

Drs. Mark Weber, Jim Slavin, and Jeff Herd dialed in briefly to inform the group about some recent Air Force interest in R&D that could tie to NextGen activity. They had identified MPAR as a candidate for potential funding for a single face prototype. They advised that all this was very preliminary at this point, and FAA will follow up.

**NOAA.** Mr. Forsyth briefed the group on [NOAA activities](#). He discussed NSSL involvement with FAA in the TAP initiative, promising design work at NSSL on a dual-pol panel, new processing capability for the NWRT that allow for range oversampling, and efforts to adopt standard data formats (e.g., NetCDF) so that others could use the data from the NWRT. He described involvement in VORTEX 2 and the Phased Array Radar Innovative Sensing Experiment (PARISE), which brings operational forecasters in to experiment with using NWRT data to issue weather warnings. His briefing included demos of adaptive scanning and range oversampling, and pictures of the modification of the SPY-1 radar to add monopulse.

**DoD.** Mr. Kimbrell, representing the Navy, stated that the Hazardous Weather Detection and Display Capability (HWDDC), which had been briefed to the working group previously, was facing some fiscal challenges but was still active.

**DHS.** Mr. Kirsch reported that they are trying to coordinate preparations for an Air Domain Awareness conference they are sponsoring.

**OFCM.** The ExSec stated that most of the [primary efforts at OFCM](#) since the last meeting had been covered in earlier agenda items. The only exception was responding to an action item from the December Executive Council meeting. That effort involved identifying a systems engineering point of contact in the Office of the Secretary of Defense DDR&E for coordination with FAA system engineers. That action was completed and followed up prior to the May EC meeting.

## **7. INDUSTRY REPORT—TELEPHONICS**

Mr. Mike Piersante provided a corporate overview of Telephonics, and Mr. John Pierro briefed on company's Active Electronically Scanned Array (AESA) radar development strategy. Government employees may request a copy of the briefing from the [ExSec](#).

## **8. LAB REPORT—AIR FORCE RESEARCH LABORATORY**

Mr. Ed Grantonic, program manager, and Dr. Seng Hong, program technical lead, briefed the group on the Scalable Panels for Efficient, Affordable Radars (SPEAR) program. Information in the briefing and follow-on discussion is FOUO. Government employees may request a copy of the briefing from the [ExSec](#).

## **9. FEDERAL FREQUENCY ALLOCATION ACTIVITIES UPDATE**

Mr. Robert Sole, MPAR point of contact at the National Telecommunications Information Administration (NTIA), provided an [update](#) on frequency allocation activities. He highlighted a number of tasks related to inventorying the RF spectrum in order to identify bands that can be made available for commercial use. He explained several aspects of radar usage of spectrum that draw attention. He also pointed out that the S-band spectrum that MPAR would use is not one of the more sought-after parts of the spectrum, but it could become more sought-after if systems that have to vacate other frequencies try to relocate there.

## **10. TECHNICAL ASSESSMENT PROGRAM**

Mr. Michael Emanuel updated the group on the status of TAP. He reiterated that the program is focused on the three key technical issues—dual polarization, multifunctionality, and cost. Under that the FAA/NSSL group has developed more detailed objectives, which have been documented in a Statement of Work (SOW). A technical requirements document for demonstrators is under development by support contractors GTRI and BCI, and a proposal evaluation plan it targeted for future work. FAA and NSSL are still trying to complete a partnership agreement that will allow NSSL to transfer funds to FAA, and the latest version has been approved by the NOAA legal office and is ready for staffing through FAA. The ExSec asked about the status of the Request for Proposal (RFP) that would include the SOW. Mr. Emanuel responded that the contracting office is flexible about how we structure the RFP, but one consideration is the possibility of using an existing contract vehicle instead of establishing a separate contract. In the course of the discussion about things that are required to be ready to release an RFP in September, Mr. Benner stated that any RFP would be delayed past September due to funding issues. The possibility of using the SE2020 contract instead of establishing a separate contract was raised along with the possible value of issuing an RFI to measure the interest of SE2020 contractors and industry as a whole.

## 11. GENERAL DISCUSSION

The ExSec kicked off the discussion by commenting on what is happening programmatically with MPAR. He mentioned two activities—the DoD surveillance analysis of alternatives, and the TAP. Regarding the former, Major Newnan updated the group on the status of the analysis, which is essentially that they are still trying to decide who should be doing it. Regarding the latter, the timeline has now been slipped some yet-to-be-determined time, likely six months or so. The group agreed that a lot of technical development has been accomplished and continues in labs and industry in spite of perceived funding and programmatic challenges within the government. When ExSec expressed a sense of urgency about moving forward, the question arose regarding what programmatic objective was at risk with the delay of the TAP. Mr. Benner responded that the FAA roadmap includes decision points that are supported by the TAP, especially one in FY 2013. Mr. Torok added that when you look at other programs that involve technology development or maturation and what it takes to get to that point, there's a lot to be done with MPAR and a relatively limited amount of time before important decisions must be made. The group agreed that the best thing to do at this point would be to press on with the contracting activities and get everything in place to move forward when funding is available.

## 12. REVIEW OF ACTION ITEMS

The ExSec highlighted the one action item to come out of the meeting (consolidation of two previous actions related to the Risk-Reduction Implementation Strategy into one) and reminded the group that there are two Executive Council action items on the WG that remain open (complete Unified R&D Plan and proceed with TAP while exploring other options).

## 13. CLOSING REMARKS

Mr. Forsyth thanked the members for their participation in the meeting and adjourned.

## ACTION ITEMS

ACTION ITEM 2008-2.7: Provide recommendations for adjustments to *Implementation Strategy* to ExSec.

OPR: All

Suspense: July 31, 2010

STATUS: **Will be consolidated with 2008-2.8 as 2010-2.1.**

ACTION ITEM 2008-2.8: Convene a meeting of appropriate MPAR members to discuss and agree on adjustments to the *Implementation Strategy*.

OPR: OFCM

Suspense: September 30, 2010

STATUS: **Will be consolidated with 2008-2.7 as 2010-2.1.**

ACTION ITEM 2009-2.4. Provide information to the ExSec (for the NOAA Co-chair) on whether the TEP system provides true 2D wind information.

OPR: DoD (Mr. Piwowar)

Suspense August 31, 2009

**STATUS: BCI reported that true 2-D winds are built into TEP and were added to the latest version of HWDDC. Closed.**

ACTION ITEM 2010-2.1: Develop updated version of Risk-Reduction Implementation Strategy for review by WG/MPAR.

OPR: OFCM

Suspense: September 30, 2010

STATUS: